

CLAIMS

1. An apparatus (15) for treatment of foodstuffs for processing and subsequent drying, comprising
5 an endless conveyor belt (2) which along part of its length follows a helical path to form a stack (3), said helical path defining a central space (11) in the stack (3),
10 the conveyor belt (2) having passages for letting a flow of a gaseous medium in the vertical as well as horizontal direction through the stack (3), characterised by
an end portion of the stack (3), in which said stack
15 is vertically surrounded by an encapsulation (22),
a first means (26) for supplying a first gaseous medium to said central space (11), and
a second means (29) for supplying a second gaseous medium to said encapsulation (22),
20 said encapsulation (22) being arranged to direct the flow of the second gaseous medium in such a manner that it is passed in the vertical direction from said encapsulation (22) to the rest of the stack (3).
2. An apparatus as claimed in claim 1, in which the
25 first gaseous medium is humid water vapour (P1).
3. An apparatus as claimed in claim 1, in which the first gaseous medium is saturated water vapour (P1).
4. An apparatus as claimed in claim 1, in which the second gaseous medium is overheated water vapour (P2).
- 30 5. An apparatus as claimed in claim 1, in which said encapsulation (22) is arranged at the upper part of the stack (3).
- 35 6. An apparatus as claimed in claim 1, in which a first end closure (16) is arranged to cover the conveyor belt (2) at the upper edge of the encapsulation (22).

7. An apparatus as claimed in claim 1, in which a second end closure (17) is arranged over the central space (11).

8. An apparatus as claimed in claim 1, in which 5 lateral pieces (7a, 7b) at a longitudinal edge of the conveyor belt (2) form an outer wall of the stack (3), which defines the stack outwards in the radial direction.

9. An apparatus as claimed in claim 1, in which 10 lateral pieces (7a, 7b) at a longitudinal edge of the conveyor belt (2) form an inner wall (9) of the stack (3) which defines the stack inwards in the radial direction to define said central space (11).

10. An apparatus as claimed in claim 1, in which a third end closure (18) is arranged against the lowermost 15 turn formed in the stack, said third end closure being arranged transversely of the central space (11) defined by the conveyor belt (2).

11. An apparatus as claimed in claim 2 or 3, in 20 which the first means (26) for supplying humid or saturated water vapour (P1) comprises a fan (28).

12. An apparatus as claimed in claim 1, in which the conveying direction (V) of the conveyor belt (2) is arranged towards the encapsulation (22).

13. An apparatus as claimed in claim 1, in which 25 the stack (3) is arranged in a housing (23) comprising an inlet (24) and an outlet (25) for the conveyor belt (2).

14. An apparatus as claimed in claim 13, in which the housing (23) further comprises a drain for draining off condensed water vapour.

30 15. An apparatus as claimed in claim 1, in which the encapsulation (22) has one outer and one inner circumferential wall having the same height, vertically surrounding a portion of the stack (3).

35 16. An apparatus as claimed in claim 1, in which the encapsulation (22) has one outer circumferential wall extending vertically along the full height of the stack (3), and one inner circumferential wall extending

vertically along a portion of the stack, whereby said outer circumferential wall preferably has openings or perforations along the portion of the stack (3) not covered by the inner circumferential wall.

5 17. An apparatus as claimed in claim 1, in which the encapsulation (22) has one outer and one inner circumferential wall extending along the full height of the stack (3), whereby both walls have openings or perforations along a portion of the stack (3).

10 18. A method for treating foodstuffs for the purpose of processing and drying, comprising the following steps providing an endless conveyor belt (2) which along part of its length follows a helical path to form a stack (3), said conveyor belt (2) having passages for letting a 15 flow of a gaseous medium through the stack (3) in the vertical as well as horizontal direction,

the stack (3) defining a central space (11), and the stack (3) comprising a lower non-encapsulated stack portion (21) and, adjacent thereto, an upper stack 20 portion (20) which is encapsulated in the vertical direction by an encapsulation (22),

supplying a flow of a first gaseous medium to said central space (11) for further conveyance to the non-encapsulated stack portion (20) through said passages 25 for letting through a flow of a first gaseous medium in the horizontal direction,

supplying a flow of a second gaseous medium to said upper encapsulated stack portion (20),

30 said encapsulation (22) directing the flow of the second gaseous medium in such a manner that it flows in an essentially vertical direction from said encapsulated stack portion (20) to said non-encapsulated stack portion (21), and

35 the flow of the second gaseous medium, which enters the encapsulated stack portion (20) and flows essentially vertically downwards, affecting the flow of the first gaseous medium which is conveyed to the non-encapsulated

stack portion (21) so that the first gaseous medium is prevented from flowing towards the encapsulated stack portion (20).

19. A method as claimed in claim 18, in which the
5 first gaseous medium is humid water vapour (P1).

20. A method as claimed in claim 18, in which the first gaseous medium is saturated water vapour (P1).

21. A method as claimed in claim 18, in which the second gaseous medium is overheated water vapour (P2).

10 22. A method as claimed in claim 18, comprising the step of arranging the conveyor belt in a conveying direction (V) towards the encapsulated stack portion (20).